

10/648,465

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in this application:

Listing of the Claims:

1. (Currently amended) A light polymerization device, especially a light polymerization device for polymerizing dental material, comprising:  
a housing (12) provided with a hand grip;  
a light source (14) mounted within the housing (12) and which emits polymerizing radiation along an optical axis (76); and  
[[an axial fan]] means (26) installed in the housing (12), the rotational axis of the fan being transverse to the optical axis (76) for creating a flow of cooling air which moves along a path generally transverse to the optical axis (76) of the light source (14), said means including an axial fan (26) mounted within the housing, the rotational axis or the fan being at right angles to the optical axis (76).
2. (Cancelled)
3. (Currently amended) A light polymerization device according to claim 1, wherein the [[fan (26)]] housing (12) has at least one air intake opening on a first side of the optical axis and at least one air exhaust opening (28) [[each]] on a [[respective]] second side of the optical axis substantially opposed to the first side on which the [[other]] air intake opening is located, the air exhaust opening (28) including air slots (30).
4. (Cancelled)
5. (Currently amended) (Original) A light polymerization device according to claim 1, and further comprising a hand grip (20) having wherein the hand grip (20) has a longitudinal axis which extends transversely relative to the rotational axis of the fan (26).

10/648,465

6. (Original) A light polymerization device according to claim 5, wherein the angle between the rotational axis of the fan and the longitudinal axis of the hand grip (20) is between 60° to 90°.
7. (Original) A light polymerization device according to claim 1, further comprising a cooling body (40) which is disposed in a selected one of direct heat conducting connection and indirect heat conducting connection with the light source (14) and which is provided with cooling ribs (46) impacted by the cooling air discharged by the fan (26).
8. (Original) A light polymerization device according to claim 7, wherein the cooling body (40) has a substantially cylindrical configuration.
9. (Original) A light polymerization device according to claim 8, wherein the cooling ribs (46) extend substantially parallel to the rotational axis of the fan (26).
10. (Original) A light polymerization device according to claim 7, wherein at least a portion of the fan (26) is received in a receptacle in the cooling body (40).
11. (Original) A light polymerization device according to claim 10, wherein the cooling body (40) is configured on the back side thereof with end regions between which the fan (26) is received.
12. (Original) A light polymerization device according to claim 7, wherein the cooling air flow is moved through a flow channel which extends along cooling ribs (46) and the fan (26) is disposed on a selected one of the air intake side and the air discharge side of the cooling ribs (46).
13. (Original) A light polymerization device according to claim 12, wherein a selected one of a socket (42) of the light source (14) and the light source (14) itself extends into the flow channel.
14. (Original) A light polymerization device according to claim 7, wherein steps (52) are disposed along the cooling ribs (46).

10/648,465

15. (Original) A light polymerization device according to claim 1, wherein the housing (12) has a part (32) which is releasably mounted with respect to the remainder of the housing (12), and at least one of an air exhaust outlet (28) and an air intake opening is arranged in the part (32) of the housing (12).
16. (Original) A light polymerization device according to claim 15, wherein the fan (26) is removable once the removable part (32) of the housing (12) has been removed from the housing (12).
17. (Original) A light polymerization device according to claim 15, and further comprising a trigger element (34) disposed on the housing (12) by which the connection between the releasable part (32) of the housing (12) and the housing (12) is selectively releasable.
18. (Original) A light polymerization device according to claim 17, wherein the trigger element is a press button (34).
19. (Currently amended) A light polymerization device according to claim 1, ~~and further comprising a wherein the~~ hand grip (20) ~~relative to which the rotational axis of the fan (26)~~ extends transversely to the rotational axis of the fan (26), a plurality of fans (26) arranged along a selected one of the optical axis (76) of the light source (14) and along a longitudinal axis of the hand grip (20), the fans 26 being arranged serially one behind the other and having rotational axes extending substantially parallel to one another, a cooling body (40) formed of one of a single piece and multiple components and extending from one of the light source (14) and a socket (42) in which the light source (14) is mounted to flow channels of the fan (26), and a plurality of cooling ribs (46) extending transversely relative to the optical axis (76) of the light source (14).